

THE MINERAL INDUSTRY OF NEW CALEDONIA

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The French Overseas Territory of New Caledonia and Dependencies lies about 2,000 kilometers (km) east of Queensland, Australia. It consists of the 400-km-long main island of La Grande Terre, which is one of the largest islands in the Pacific Ocean; the archipelago of Iles Loyaute (Loyalty Islands); and numerous small sparsely populated islands and atolls. Rugged mountains divide the northwest from the southeast of La Grande Terre. New Caledonia covers 19,060 square kilometers (km²), of which 18,575 km² is land. The territory has three provinces—Iles Loyaute, Nord, and Sud (U.S. Central Intelligence Agency, 2003§¹).

In 2002, the mineral industry of the territory was dominated by the mining of nickeliferous laterite-saprolite-limonite and garnierite ores and the production of ferronickel of various commercial grades and nickel matte at the 60,000-metric-ton-per-year (t/yr)-capacity Doniambo smelter in the harbor of Noumea, which is the territorial capital. The products of the Doniambo plant consisted of 80% ferronickel and 20% nickel matte, which was 75% nickel (Mining Journal, 2002). The ferronickel was used in making stainless steel, and the matte was shipped to the Eramet Group's La Havre-Sandouville refinery at Sandouville, France, which is located 15 kilometers (km) from La Havre, for conversion into high-purity nickel metal and salts of nickel and cobalt (Eramet Group, undated§). The Doniambo smelter was operated by Société le Nickel (SLN), which was a consortium of France's Eramet (60%); STPCI (30%), which was a public company that represented the interests of the indigenous peoples of New Caledonia; and Japan's Nisshin Steel Co., Ltd. (10%) (Resource Information Unit, 2002, p. 13). New Caledonia was the world's fifth leading source of nickel ore after Russia, Canada, Australia, and Indonesia. It was also the largest ferronickel producer in the world (Kuck, 2003).

The nickel industry, which included nickel mining (cobalt was a byproduct) and ferronickel and nickel matte smelting, was the mainstay of New Caledonia's economy. The industry accounted for about 10% of New Caledonia's gross domestic product and contributed an estimated 80% to foreign exchange earnings in 2002. New Caledonia has about one-quarter of the world's lateritic nickel resources, or about one-sixth of the global land-based nickel resources when sulfides are included (Australian Journal of Mining, 2001). The dominance of the nickel industry in New Caledonia notwithstanding, the territory also has large deposits of iron ore and manganese. Additionally, deposits of antimony, copper, gold, lead, mercury, and silver occur. Caledonian Pacific Minerals NL acquired virtually all the known gold and base-metal properties and continued with its exploration (Resource Information Unit, 2002, p. 12).

On La Grande Terre, SLN mined nickel ore from five open cut operations—Etoile du Nord (280 km northeast of Noumea), Kouaoua (140 km north-northwest of Noumea), Nepoui-Kopeto (250 km northwest of Noumea), Thio (120 km northwest of Noumea), and Tiebaghi (320 km northwest of Noumea). Output from these mines was exported to Australia and Japan and supplied feed to the Doniambo smelter. Société Minière du Sud Pacifique S.A. (SMSP) mined nickel ore at an open cut mine at Kouaoua and at the Boakaine Mine (150 km northwest of Noumea). SMSP's ore was used as feed for BHP Billiton Ltd.'s Yabulu refinery in Townsville, Australia, which was operated by BHP Billiton's wholly owned subsidiary, QNI Pty. Ltd.

Nickel ore was mined by removing the tops and flanks of the laterite-rich deposits that compose ultramafic rock; it was then trucked, piped, or moved on cableways to coastal ore stockpiles. At the Thio Mine, however, the ore was trucked or moved by cableway to coastal stockpiles, then loaded onto barges, and tugged to be loaded by buckets onto 20,000- to 25,000-metric-ton ore carriers for either export to Australia or Japan or transport to the Doniambo smelter. The cargo vessels were loaded directly from conveyor belts that ran on sea gantries (Resource Information Unit, 2000, p. 26).

In 2001, a \$180 million program to increase the production capacity of the Doniambo smelter by 25% to 75,000 t/yr from 60,000 t/yr was launched (Eramet Group, 2002). The program was to include the replacement of one of three existing furnaces at the smelter and the improvement of the Tiebaghi Mine by basing the mining method on systematic and accurate surveys of the deposit, computer modeling of the site, and an extraction method adapted to particularly damp ground. The planned target date for completion was 2006 (Resource Information Unit, 2002, p. 153). In addition to the Tiebaghi Mine, SLN operated three other open pit mines. A fifth mine was operated by the subcontractor Soc. Georges Montagnat.

New Caledonia's second major nickel producer was the Western Hemisphere's largest nickel producer, Canada's Inco Ltd., which was proceeding with construction of a \$1.4 billion nickel-cobalt project at Goro. This fully integrated mining and processing facility was being built in Sud Province at the southern tip of La Grande Terre. Annual capacities of 54,000 metric tons (t) of nickel and 5,400 t of cobalt were planned. Inco owned 85% of the Goro lateritic nickel project in a joint venture with France's Bureau de Recherches Géologiques et Minières. Japan's Sumitomo Metal Mining Co. announced in May that it had been participating in negotiations with Inco concerning participation in Goro since 1999 (Mining Journal, 2002).

With nickel mining and smelting expanding in New Caledonia, the Government of the French Pacific Territory granted a 100% tax holiday for overseas investors for the first 15 years of production and a 50% tax reduction for the following 5 years (Metal Bulletin, 2001).

¹ References that include a section mark (§) are found in the Internet References Cited section.

In addition to producing abundant resources of nickel ore, the island territory also produced construction materials from several quarries, and Société des Ciments de Numbo operated a cement plant at Noumea.

New Caledonia is expected to remain one of the largest nickel producers in the world, especially when Inco and its joint venture partners begin production at the Goro Mine.

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Major Source of Information

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TABLE 1
NEW CALEDONIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	1998	1999	2000	2001	2002 ^p
Cement	--	-- ^c	100,000 ^e	92,868 ^r	100,080
Cobalt, mine output:					
Co content ^e	12,500 ^r	11,000	12,300 ^r	5,900 ^r	6,000
Recovered	1,880 ^r	1,650 ^r	1,840 ^r	885 ^r	900
Nickel:					
Ore:					
Gross weight thousand tons	7,526	6,561	7,087	6,971 ^r	5,890
Ni content	125,319	110,062	123,493	58,973 ^r	59,867
Metallurgical products:					
Ferronickel:					
Gross weight	158,000 ^r	158,000 ^r	157,000 ^e	162,000 ^e	170,000
Metal content (nickel plus cobalt)	44,491	45,289	43,914	45,912	48,650
Nickel matte:					
Gross weight	16,813	15,808	18,900 ^e	19,000 ^e	15,700
Metal content (nickel plus cobalt)	12,011	11,353	13,549	13,061 ^r	11,217

^eEstimated. ^pPreliminary. ^rRevised. -- Zero.

¹Table includes data available through September 12, 2003.

²In addition to the commodities listed, crude (unspecified) and crushed stone, construction sand, and silica sand for metallurgical use are produced, but data are insufficient to make reliable estimates of quantities.